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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,400

03/18/2004

Thomas Eisenhammer

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08/31/2006

PEARNE & GORDON LLP

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CLEVELAND, OH 44114-3108

EXAMINER

ROSSI, JESSICA

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,400

Applicant(s)

EISENHAMMER ET AL.

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/25/04, 3/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9 and 18, drawn to a method for bonding disk-shaped substrates, classified in class 156, subclass 286.
 - II. Claims 10-17, drawn to an apparatus for bonding disk-shaped substrates, classified in class 156, subclass 382.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus could be used to practice a process where the disks are bonded by a sheet of adhesive instead of liquid adhesive (see p. 1, lines 20-23 of the prior art section of the present specification). Or, the method could be practiced by an apparatus that does not have radially extendable and retractable central mechanical means for acting on the edge of the central opening of the first substrate or on the first bonding surface in the vicinity of the central opening.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Garvey on 8/24/06 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9 and 18. Affirmation of this

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election must be made by applicant in replying to this Office action. Claims 10-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-9 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear what Applicant means by "small area of contact" in line 27. What constitutes a small contact area? How small is small? The present claim does not allow one to ascertain the metes and bounds of the claim. Applicant is asked to clarify.

Also regarding claim 1, it recites the limitation "its unstressed essentially plane configuration" in lines 31-32. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete "unstressed" or change this phrase to --an unstressed essentially plane configuration.

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Regarding claim 2, it is unclear as to how the first substrate can be deformed to assume a concave or convex configuration when one reading the present specification would clearly understand that the first substrate is only deformed to assume a concave configuration (Figure 2C; p. 9, lines 28-30). Applicant is asked to clarify. It is suggested to delete “or convex” from the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-9 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Perego (EP 0 866 450, listed in IDS).

Perego teaches the claimed limitations:

- Essentially plane disk-shaped first substrate 3 with a central opening, first bonding surface, and back surface (Figure 1; column 4, lines 21-24)
- Essentially plane disk-shaped second substrate 14 with a central opening and second bonding surface to be bonded to the first bonding surface by an adhesive layer (Figure 1; column 5, lines 36-38; column 6, lines 44-56)
- Providing first substrate and second substrate
- Applying liquid adhesive to the first bonding surface or the second bonding surface or both (column 8, lines 7-31)

- Positioning, in a vacuum chamber (formed by lower vacuum chamber 8 and upper vacuum chamber 19), the first substrate and second substrate with the second bonding surface facing the first bonding surface (Figure 1; column 4, lines 39-46; column 5, lines 19-38; column 6, lines 18-35)
- Elastically deforming the first substrate in such a way that the first bonding surface assumes a bent shape and upholding the deformation by mechanical means acting on the first substrate (Figure 1; column 4, lines 25-57; column 7, lines 42-50)
- Evacuating the vacuum chamber
- Moving the first substrate and the second substrate towards each other and establishing a small area of contact where edges of the first bonding surface and second bonding surface touch (note dotted line representing substrate 14 in Figures 1 and 3; column 5, lines 53-58; column 8, lines 2-6)
- Releasing the first substrate so as to allow it to assume its unstressed essentially plane configuration in such a way that the area of contact spreads essentially to the entire first and second bonding surfaces (column 8, lines 22-31)
- Raising the pressure in the vacuum to atmospheric pressure

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perego as set forth above and further in view of Kano (US 4990208, listed in IDS) and/or Russell et al. (US 6254716) and/or Miwa et al. (US 5582677, listed in IDS).

If it is not taken that Perego teaches positioning the first and second disk-shaped substrates in a vacuum chamber, such would have been obvious to one having ordinary skill in the art since it is well known and conventional in the art to place two disk-shaped substrates within a vacuum chamber and carry out the adhesive bonding process within the evacuated chamber because this prevents the formation of air bubbles in the adhesive thereby eliminating the problems that these bubbles cause, as taught by Kano (Figures 5, 8 and 11; column 1, lines 35-45; column 2, lines 25-31; column 6, lines 24-55; column 13, lines 28-38) and/or Russell (Figure 1; lines 25-28 and 34-35 and 43-56; column 2, lines 1-16) and/or Miwa (Figures; abstract; column 1, lines 58-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JESSICA ROSSI
PRIMARY EXAMINER

